ENG

da Vinci 1.1 Plus User Manual

The purpose of this user manual is to help users understand and use the da Vinci 1.1 Plus 3D printer correctly. It contains the operating instructions, maintenance information and application skills of the da Vinci 1.1 Plus 3D printer. To learn more about the latest news of the da Vinci 1.1 Plus 3D printer, please contact local dealers or visit the official website of XYZprinting: http://www.xyzprinting.com

Trademarks

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Printing History

New editions of this manual incorporate new and changed material since the previous edition. Minor corrections and updates may be incorporated into reprints of the current edition without releasing additional announcements or documents regarding the updated version. The User Manual is for the user's reference only. If you need to obtain the latest information, you are welcome to visit XYZprinting website: www.xyzprinting.com

Warranty and Service Plan

After purchasing da Vinci 1.1 Plus, you may obtain the related warranty and service plans that we provide. You can contact the dealer or get the latest information from our official website.

Doc Edition	Month	Year
V1.2	Apr	2015

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Chapter 1 Important Safety Instruction

Please read this manual carefully before operating the printer. The following warnings and attention notices are a best effort attempt to cover all scenarios; unfortunately it is not possible to do so. In the case of performing maintenance procedures that are not described in this manual the burden of safety falls to the customer side.
For basic safety and precautions adhere to the following:

! Warning

- Do not let children operate this device without adult supervision. Electric shock hazard. Moving parts can cause serious injury.
- Do not place the printer on an unbalanced or unstable surface. Printer may fall or tumble causing harm and/or injury.
- Do not place any objects on top of the printer. Liquids and objects that fall into the printer can lead to printer damage or safety risks.
- Do not use flammable chemicals or alcohol wipes to clean this device.
- Do not disassemble or replace the printer cover with none XYZprinter covers.
- Do not touch heated surfaces during or after operation. Heated surfaces can cause severe burns.
- Insert and secure the power cord firmly for proper usage and to avoid potential electricity and fire dangers.
- Do not attempt to service the printer beyond the instructions specified in this document. In the case of irrecoverable problem, contact XYZprinting service center or your sales representative.

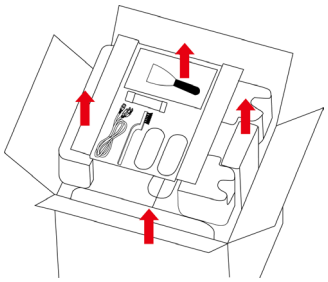
! Attention

- Please place and use the printer in a well ventilated area. The process of heating the filament will produce a small amount of non-toxic odor. Having a well ventilated area will ensure a more comfortable environment.
- This printer is only to be used with filament specified by XYZprinting.
- Make sure to set the power switch to the off position and remove the power cord before transporting the device.
- Some components of the printer are moving during operation. Do not attempt to touch or change anything inside before power off the printer.

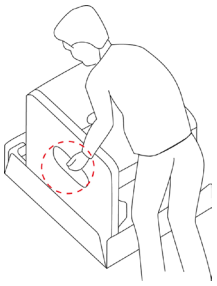
Chapter 2 Unpacking and Setup

⚠ Note: All packaging materials should be removed before powering up the printer.

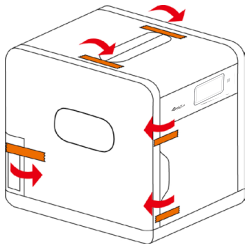
Open the box



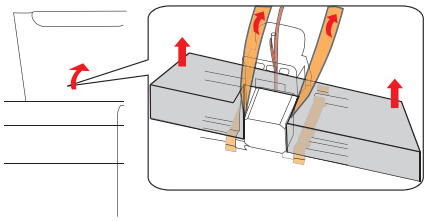
1 Open the box and remove the accessories and the cushion.



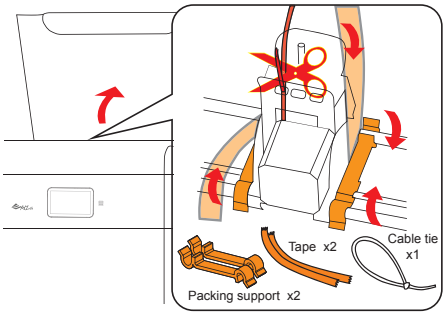
2 Take out the printer by the grip holds.



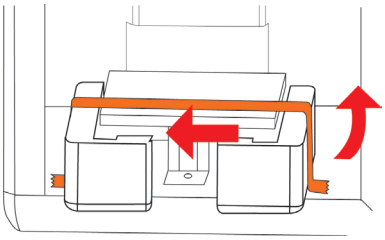
3 Remove plastic bag and all tapes.



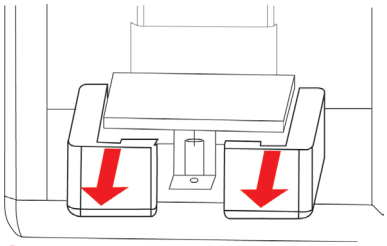
4 Open the top cover, and remove the cushions by the extruder



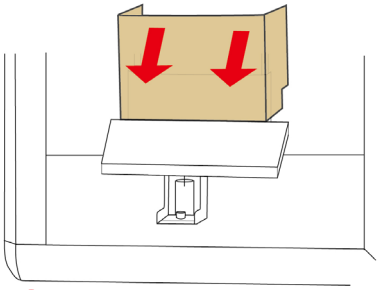
5 Remove the packaging supports and tapes from inside.



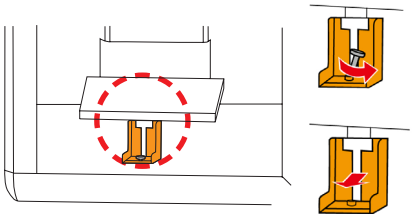
6 Remove the tape on the print bed.



7 Remove the cushions by the print bed.



8 Remove the cardboard.



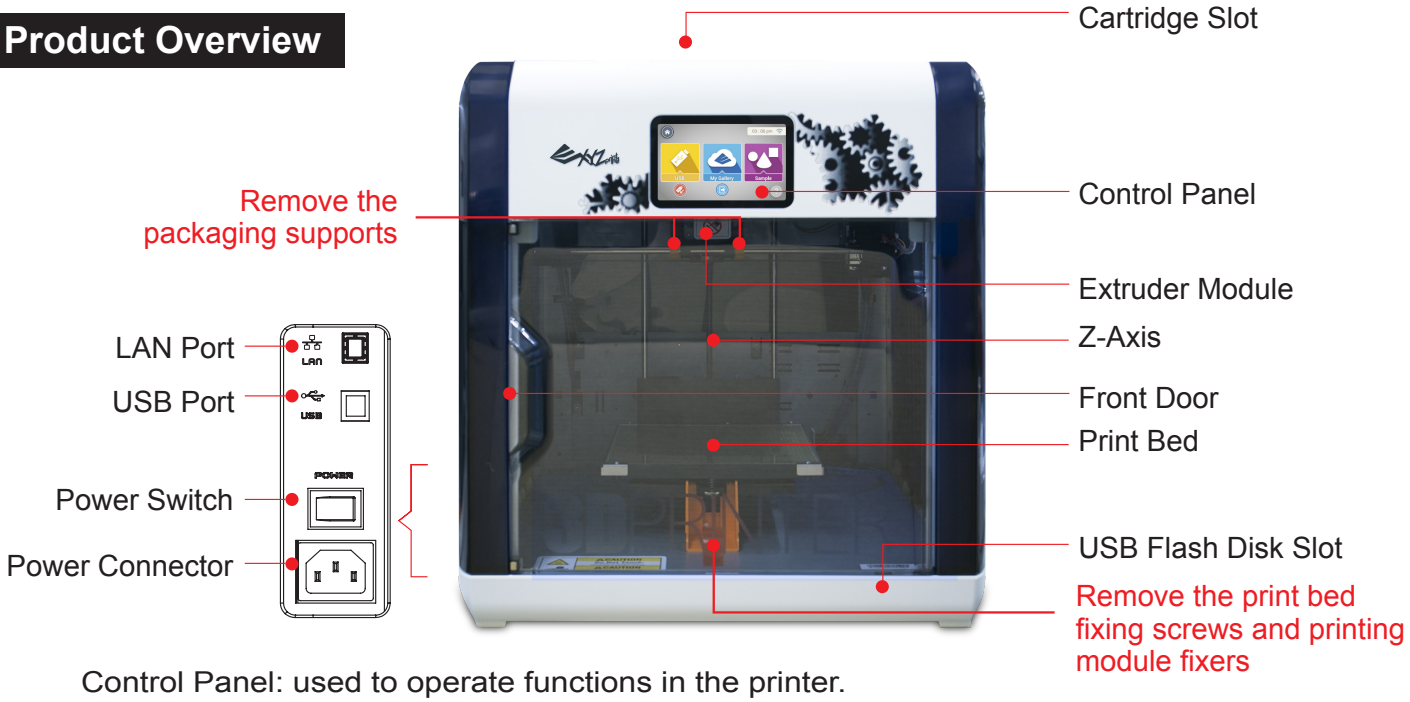
9 Remove the bottom screw and plastic piece under print bed.

10 Insert the USB flash drive to install XYZware for printing.

11 Use the USB cable to connect the printer to PC. Connect the power cord to the printer then turn on the power switch.

Chapter 3 Product Overview / Accessory Checklist

Product Overview



Control Panel: used to operate functions in the printer.
Extruder Module: used for printing 3D objects.
Z-Axis Rod: used to lift heated bed module during printing.
Front Door: open to get printing sample or for maintenance.
Print bed: provides a flat surface to lay the 3D model.
Cartridge Slot: space for placing the filament cartridge.
LAN Port: used for connecting the Network cable.
USB Port: used for connecting the USB cable.
Power switch: this switch turns on/off the power of the printer.
Power Connector: used to connect the power cord.

Attention

Once the 3D printer is turned off, wait at least 3 seconds before turning it on again.

Accessory Checklist

· Filament Cartridge

· Cartridge Locker

· USB Cable

· USB Flash Drive

USB Content:
-Quick Guide
-Important Notice
-User Manual
-XYZware Manual
-Software
-Print Sample

· Side Cover Plate x2

· Glue Stick

· Power Cord

Maintenance Tools

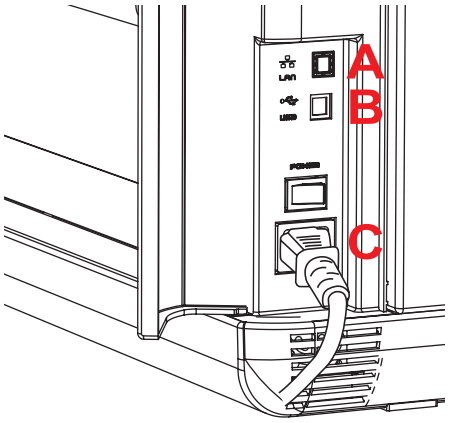
· Copper Brush

· Scraper

· Cleaning Brush

· Cleaning Wire

Chapter 4 Connect the Cable



A. LAN Port:
Make sure the printer is connected with Internet and plug the cable tightly.
Please use RJ-45 Network cable.

B. USB Port:
Make sure USB cable is connected with computer.

C. Power Outlet:
Make sure power cord is properly connected.

! Warning

- Make sure to set the power switch to the “off ” position before inserting the power cord.
- Make sure the power cord is properly connected. Incorrect use may cause damage to the printer.
- Make sure to remove the power cord from printer if you are storing or not using the printer for an extended period of time.
- Make sure to avoid power strips to power the printer . Use a wall outlet.

Turn on the power
Press the power switch | Power up the printer, until the screen loading screen disappears, you can begin to manipulate printer.

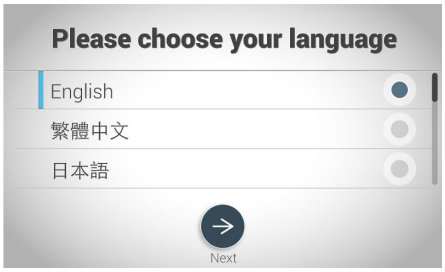
Press the power button behind the printer.

Loading, please wait.

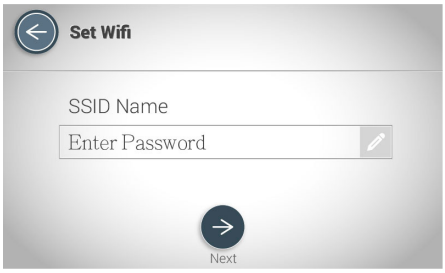
Boot completed.

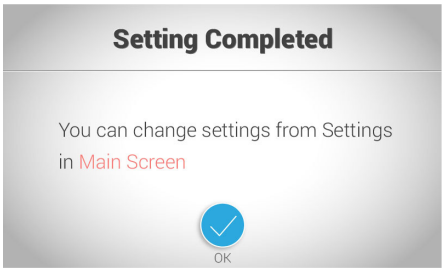
Chapter 5 Opening Settings

Complete the basic settings of the printer after turning it on for the first time and follow the prompts on the screen to set the printer.



1 After choosing the language, display language on the screen will switch to the language you selected.





2 Follow the prompts on the screen and complete the settings of the printer name, date, time and Wi-Fi*. Then click and enjoy the fun of 3D printing.

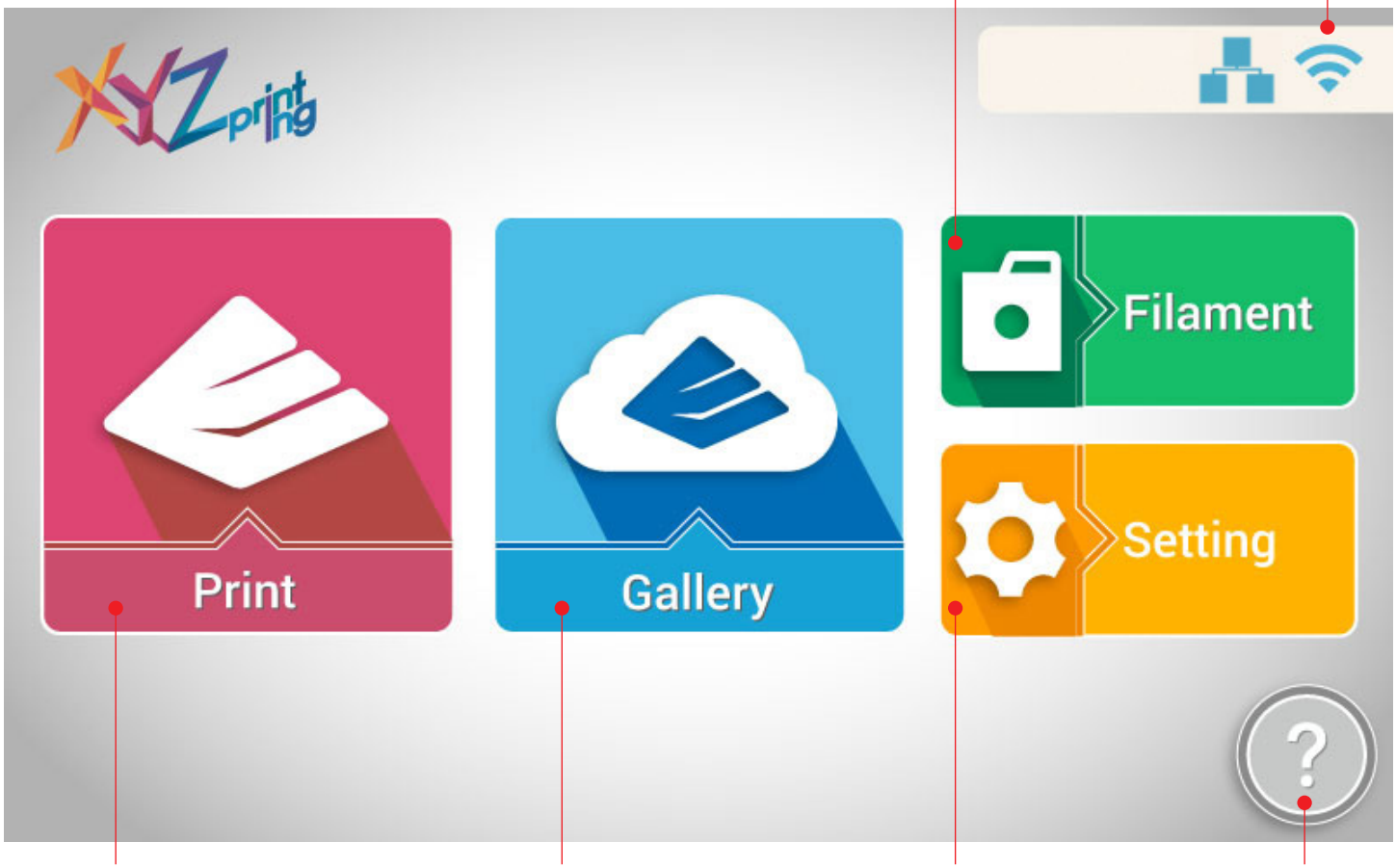
* Skip the Wi-Fi setting if it is not necessary.

Chapter 6 Home Menu Display and Change Cartridge

Home Menu

Filament
Load, unload filament and view the information about the filament.

Network Status
Display online status of Wi-Fi or Ethernet network.



Browse the file for printing
Print from USB flash drive*, "My Gallery" and sample folder.

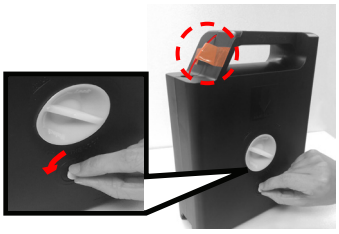
Print from the cloud gallery
Browse the content of XYZprinting gallery and select for printing.

Settings
View the printer status and system settings.

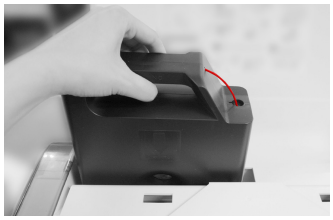
Function Guidelines
Home menu basic operation introduction.

*Please export .stl files into .3w format via XYZware before printing.

Load Filament

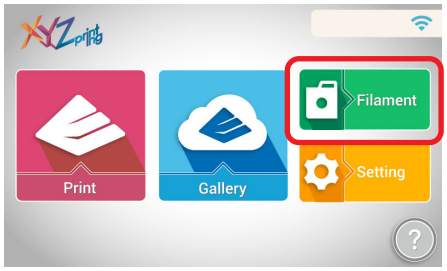


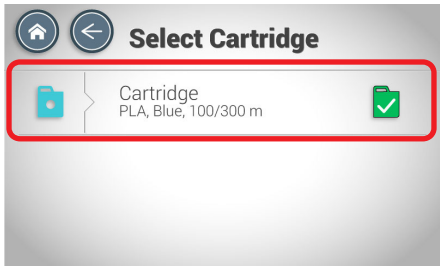
1 Remove the filament stopper and tape.

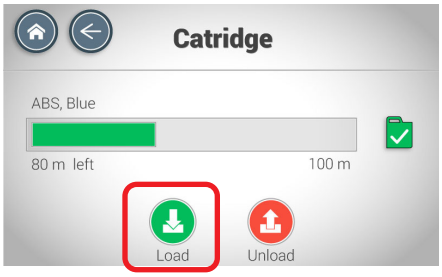


2 Install the new filament cartridge into the empty slot.

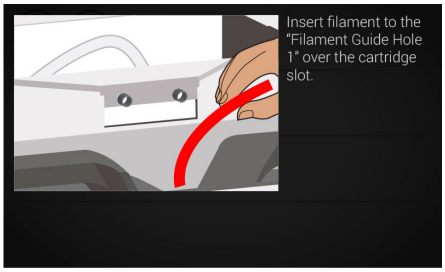
3 Place and push to click the cartridge.



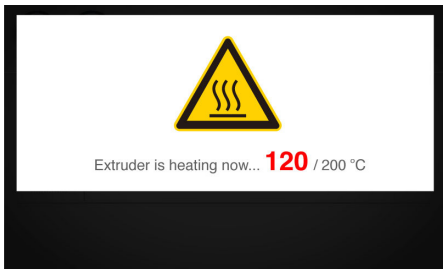




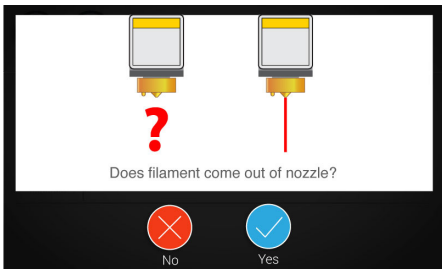
4 Select "Filament" > "Cartridge " > "Load".



5 Insert filament into the guide hole until the printer starts to load filament.
(When the loading begins, you will hear the sound of motor and can see filament is pulled into the printer.)
Note : Before pushing the filament into the guide hole, avoid bending the filament while loading filament and cut the tip of the filament off at a 45° angle with a cutting pliers, filament loading will be easier.



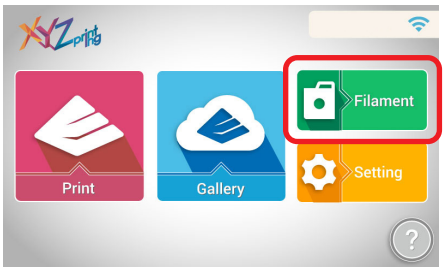
6 Wait for the printer to install filament and heating extruder.

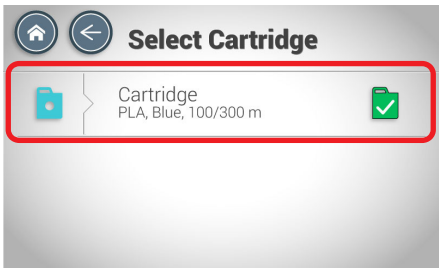


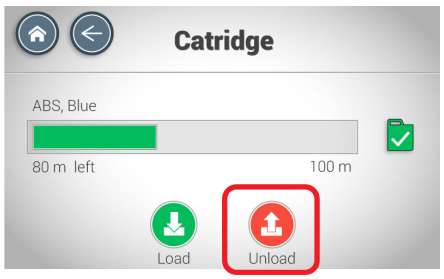
7 If filament doesn't come out from the nozzle,please press or . When filament is dripping off the nozzle, tap to finish.

Unload filament

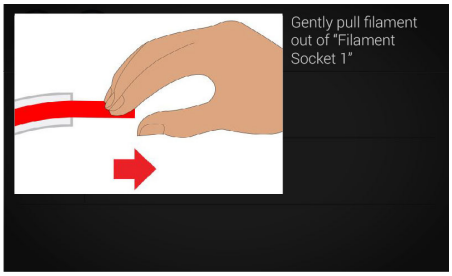
Note: Always "UNLOAD FILAMENT" as described below before changing the cartridge. Do not cut the filament off.



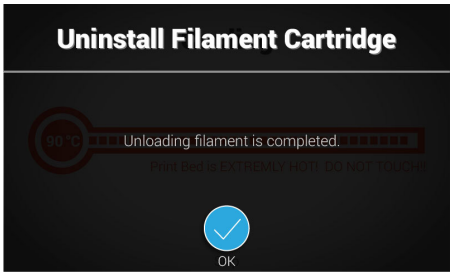




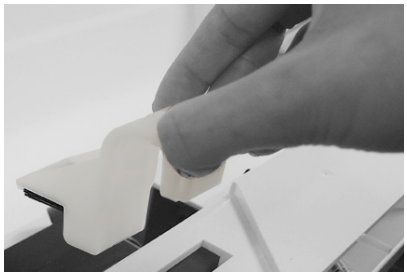
1 Select "Filament" > "Cartridge" > "Unload" on the screen



2 Filament is unloaded from extruder automatically. Gently pull filament out from the guide hole when prompted.



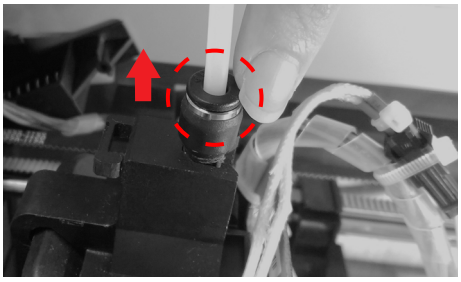
3 When filament is pulled out, press ✓.

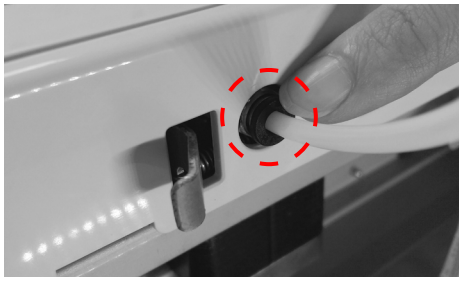


4 Remove cartridge locker and the catridge.

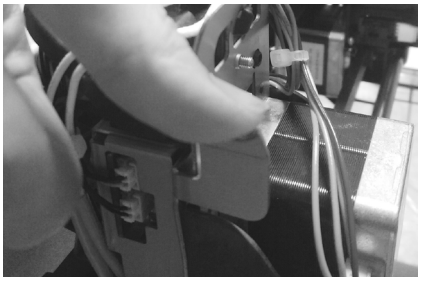
Filament troubleshooting

When the filament is loaded automatically or is stuck in the extruder module, please first unload filament by following the steps above. And then press on the black rubber fixers on either ends of the filament tube. You may also follow the instructions on the screen for troubleshooting.

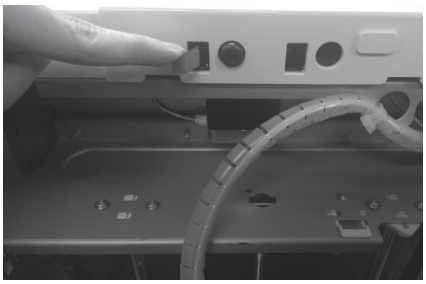




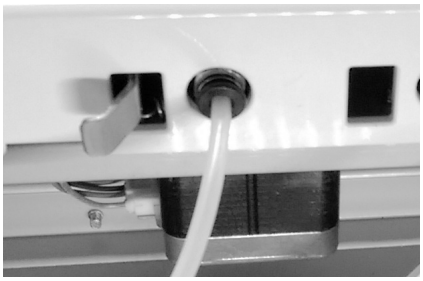
Status



1 If the filament is stuck in the extruder module, press the release arm on the side of the extruder module to extract the stuck filament.



2 If the filament is stuck at the entrance of the guide tube, please press the release arm by the entrance to extract the stuck filament.



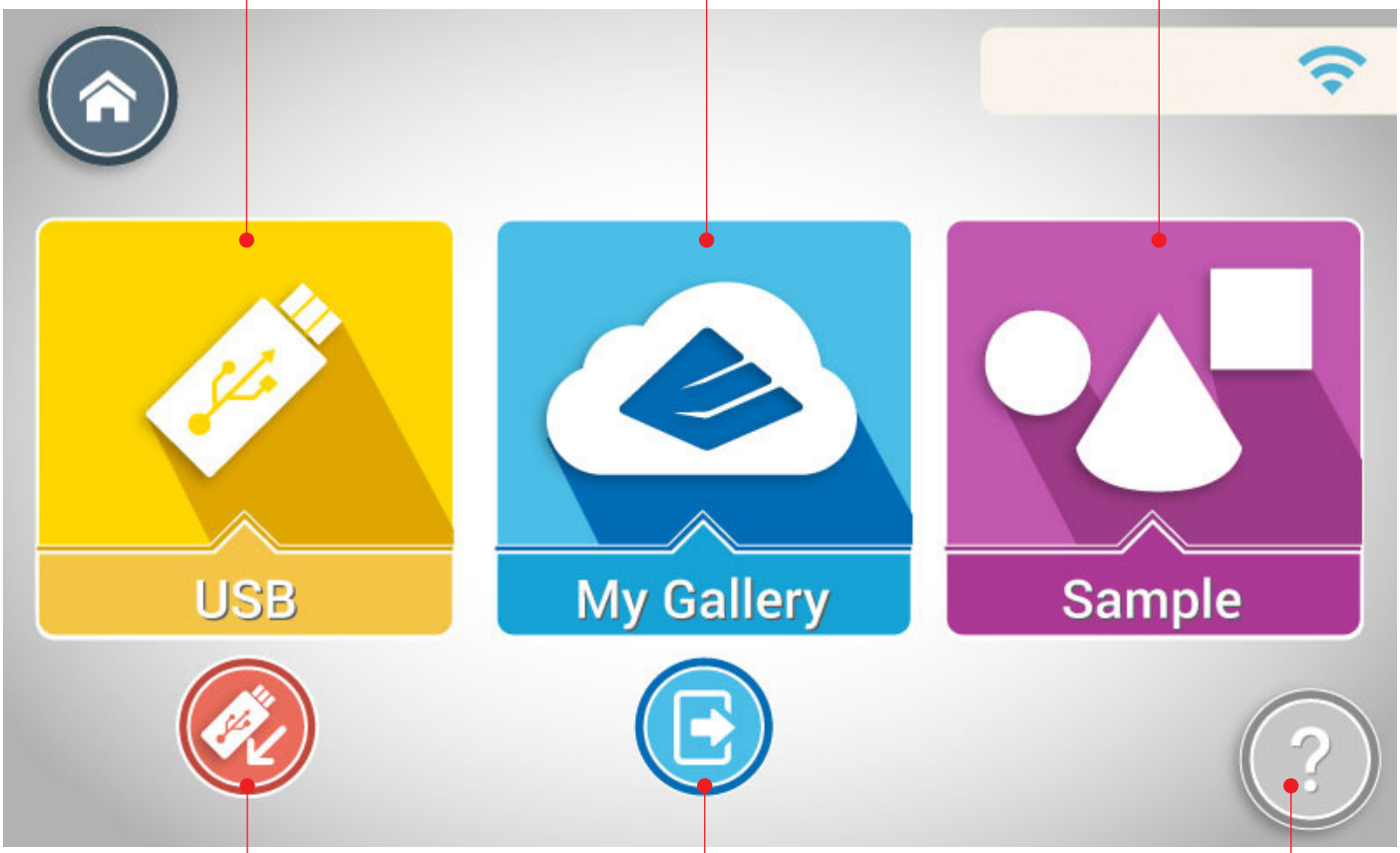
3 After removing the filament, plug the filament tube directly back to its original position to complete the re-installation.

Chapter 7 Print Menu Display

Choose the file for printing from the USB flash drive.

Choose the file for printing from My Gallery.

Choose the files for printing from Sample that come with the printer.



Remove the USB flash drive securely.

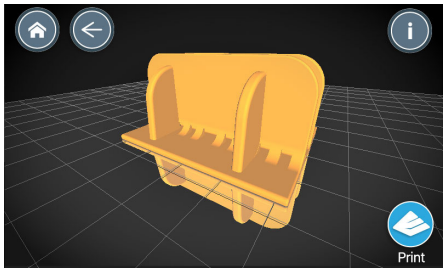
Log out from the gallery.

Basic operation introduction of the printing menu.

USB flash drive: Choose .3w files from the USB flash drive

The .3w file is generated by XYZware and contains slicing information. Before choosing the file from the USB flash drive, you must use XYZware to save as a 3D file.

1 Browse the content in the USB flash drive and choose the file to be printed.



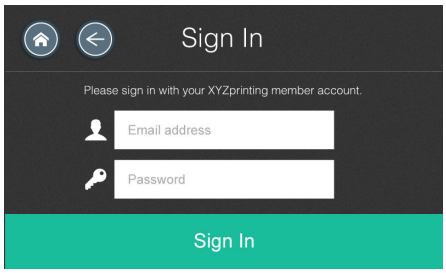
2 Choose the file to be printed and click to start printing.

To remove the USB flash drive security, click to remove it securely.

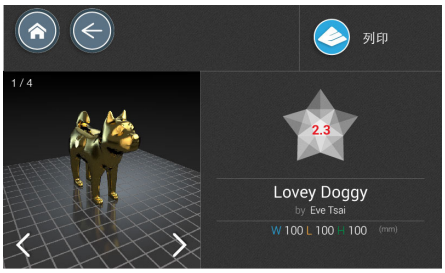
My Gallery: Choose 3D models from private XYZprinting gallery

You may register an account on the XYZprinting official website and upload your 3D creations. After uploading your works, you may download it for printing directly on the printer.

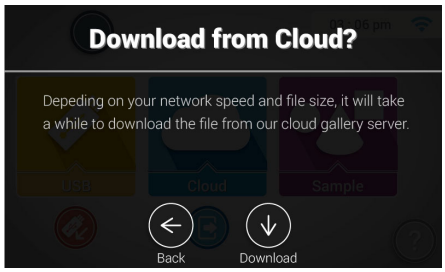
Choosing Steps:

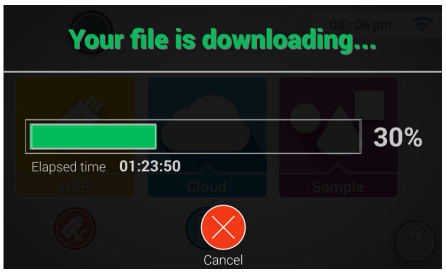


1 Enter your e-mail address and password to log in My Gallery.



2 Choose the file to be printed and click .


Download from Cloud?
Depeding on your network speed and file size, it will take a while to download the file from our cloud gallery server.
Back
Download



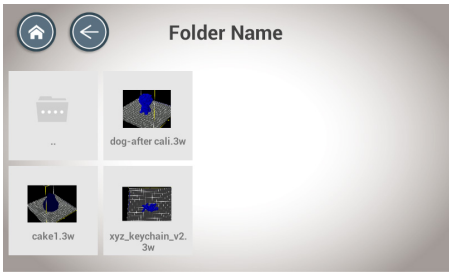
3 Click to confirm the file to be downloaded and the printer will start to download the file. The file will be printed right after the download. Click to log out from My Gallery.

Note: Please connect the printer to the network and log your XYZprinting account to use this function.

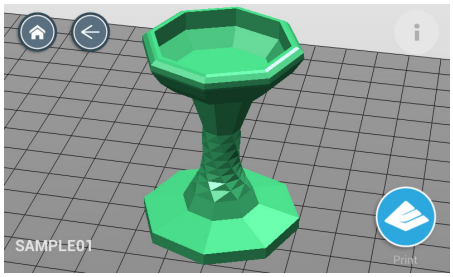
Sample: Print from the built in samples

There are 3 single color 3D model stored in the printer. You can start printing without the need to select any settings.

To select a sample:



1 Browse the sample in Build Sample.

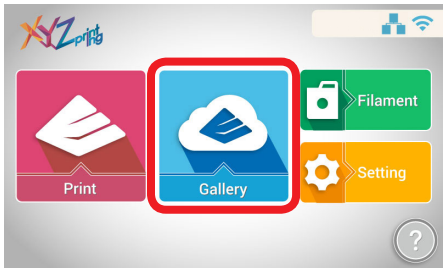


2 Select a sample to print, and tap to print.

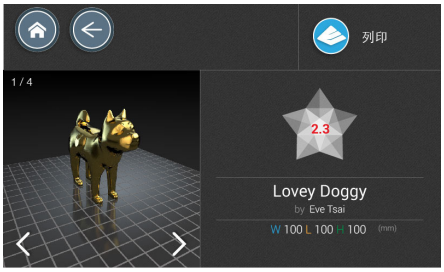
Cloud Gallery: Print from cloud gallery

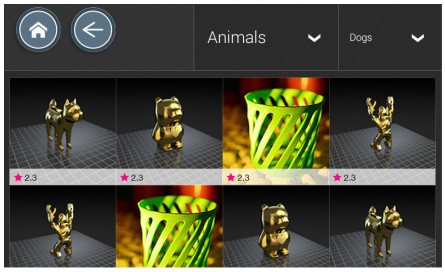
XYZprinting provides a wealth of free 3D models in the cloud gallery. You can download and print through the Internet directly without logging in.

Downloading Steps:

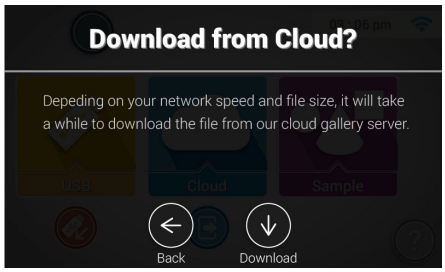


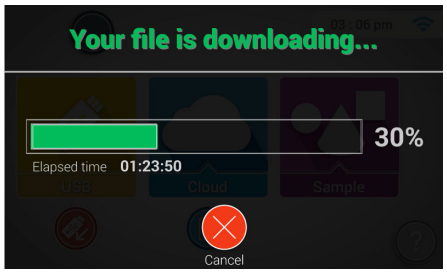
1 Once the printer is connected to the Internet, select "Gallery" to go to XYZprinting cloud gallery.





2 Browse the Gallery and switch among different categories; To preview the model,tap .


Download from Cloud?
Depeding on your network speed and file size, it will take a while to download the file from our cloud gallery server.
Back
Download



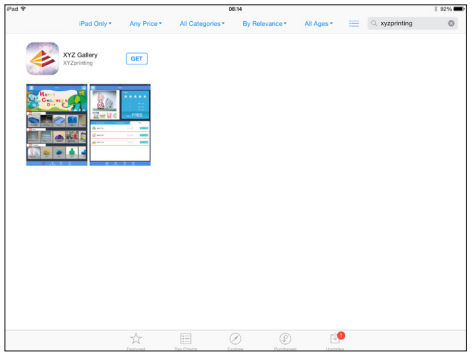
3 Press to download, and wait for the download to complete.

Caution:

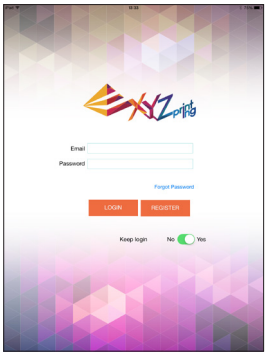
Make sure printer is connected to Internet.

Print From A Mobile Application

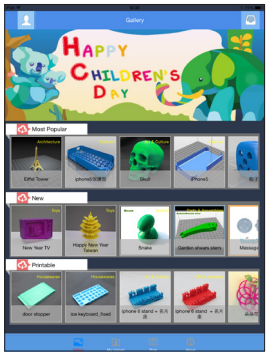
1.The mobile device needs to support wireless printing.
2.Install XYZprinting App from Android or iOS system.



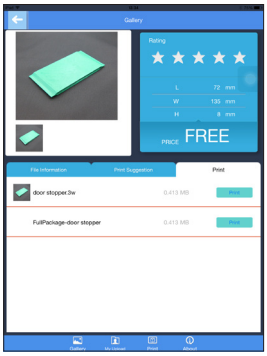
1 Open the Play Store from your Android browser or App store of iOS system to search “XYZprinting” and download the application to your device.



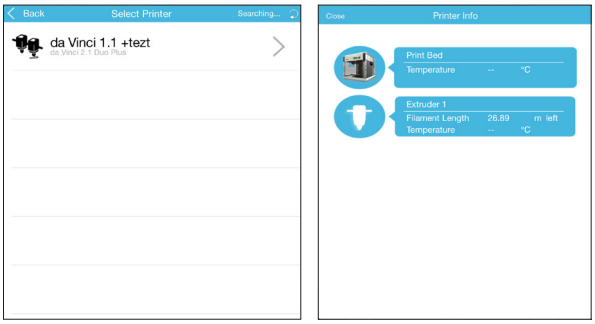
2 Please register an account at XYZprinting official website before logging in.



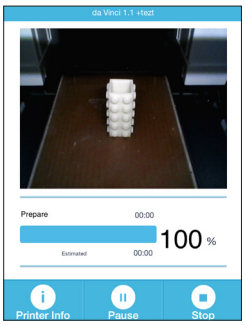
3 After log in, you will see ” most popular”, “new” and “printable*” three folders for you to choose.



4 Select the object you want to print.



5 Select the printer and confirm the printer information, tap “Confirm to print”, the file will be sent to the printer and ready to print.



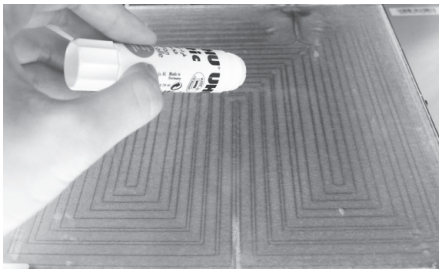
6 You may remote control the printing status.

Note:
1.Ensure the mobile device and the printer are connected on the same wireless network.
2.Transferring a print file over a wireless network may take more time than transferring a print file from a USB mass storage device.

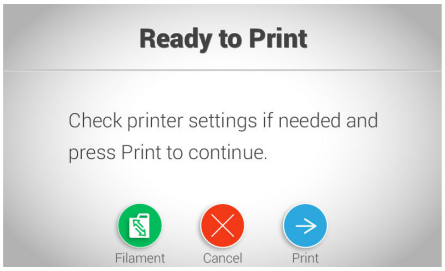
*The printable file is .3w format which can print from App directly. Some prints are.stl files that need to export into .3w format via XYZware before printing. If the file requires payment, please follow the payment instruction.

Chapter 8 Printing Steps

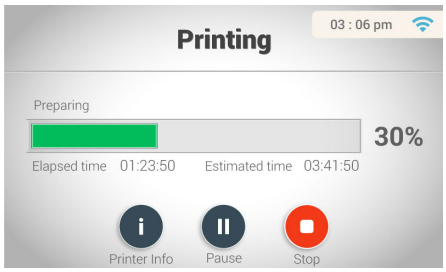
After choosing the files from the USB flash drive, My Gallery, Sample or Cloud Gallery, or transmitting the files to the printer from XYZware…

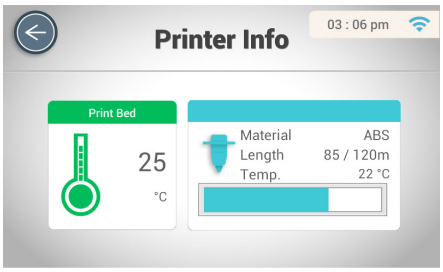


1 Apply glue stick gently and evenly to the print bed base on the size of the printing object previewed on screen.

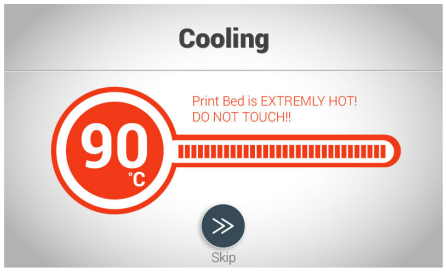


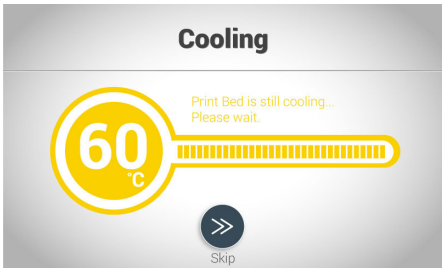
2 Press to print or press to change filament.

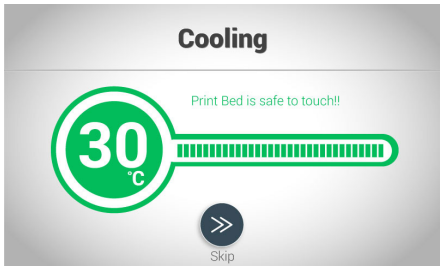




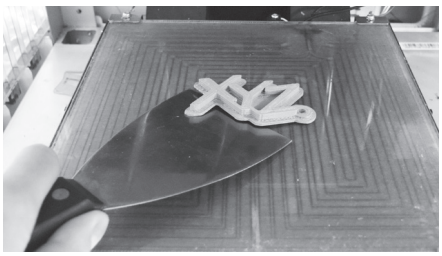
Printing process is shown on the screen. You may click for Printer info during printing and tap cancel or pause to stop printing .



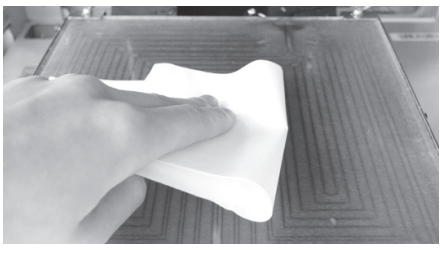




After the printing, the screen will show the temperature of the print bed. Take out the printed object after the temperature of the print bed is cooling down to the room temperature.



3 Remove the printed object when the print bed has descended.



4 Cover a damp cloth on the cold print bed for 2-3 minutes, and wipe the glue off gently (Scrape off the glue if necessary).

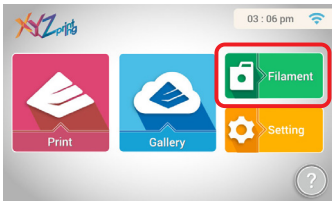
Auto Feed Gear Cleaning Instruction

When the machine’ s auto-feeder / ejector has encountered any abnormal situations, use the gear cleaning brush to clear away the remained filament and particles from the gears.

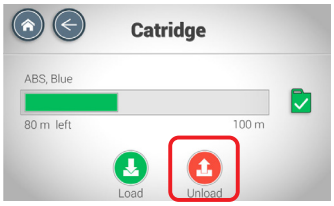
Preparation of Tools: Cleaning brush that comes with the printer.

Note: The cleaning brush shall only be used to clean the specified parts of the machine and should not be used for the cleaning of other parts to prevent damaging the machine.

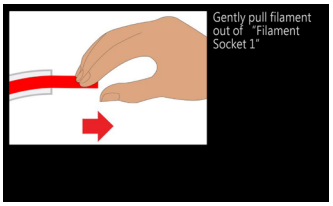
Step 1. Unload Filament



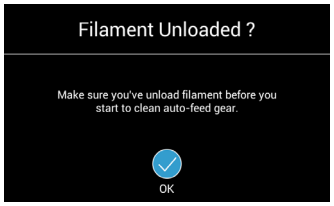
1 Please always complete the procedure for " Unload Filament " before cleaning auto-feed system.



2 Select "Filament" > "Cartridge" > "Unload" on the screen.

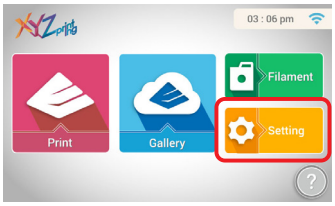


3 Gently pull filament out from the guide hole when prompted.

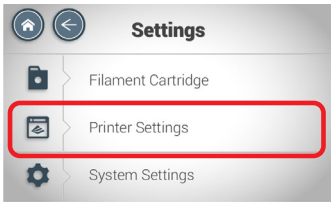


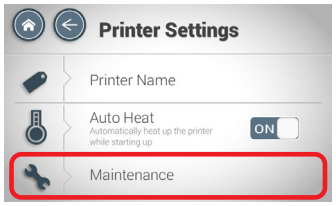
4 Make sure the filament is pull out from the printer and star to active cleaning auto feed system.

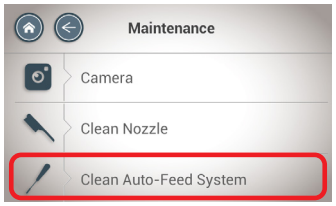
Step 2. Active Cleaning Auto Feed System Function



1 Enter "Setting" section.

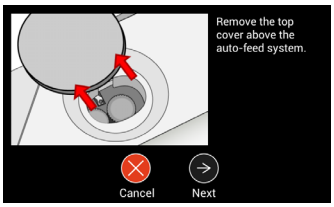


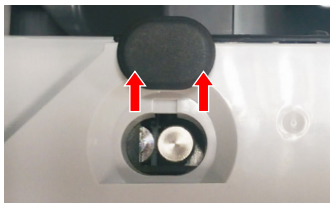




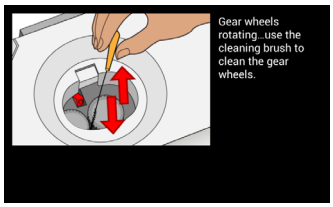
2 Select "Printer Settings" > "Printer Maintenance" > "Clean Auto-Feed System" on the screen.

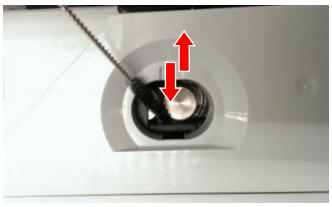
Step 3. Start to Clean Auto Feed System



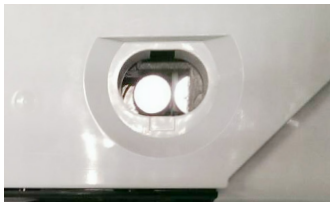


1 Remove the top cover above the auto-feed system.

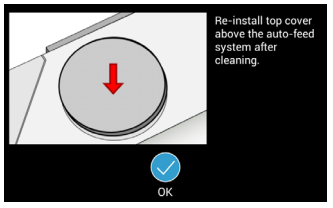


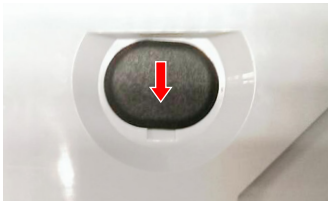


2 Gear wheels rotating...use the cleaning brush back and forth to clean debris and particles in the gear wheels.



3 After cleaning, press Next to finish or retry to re-rotate wheels again in order to continue.

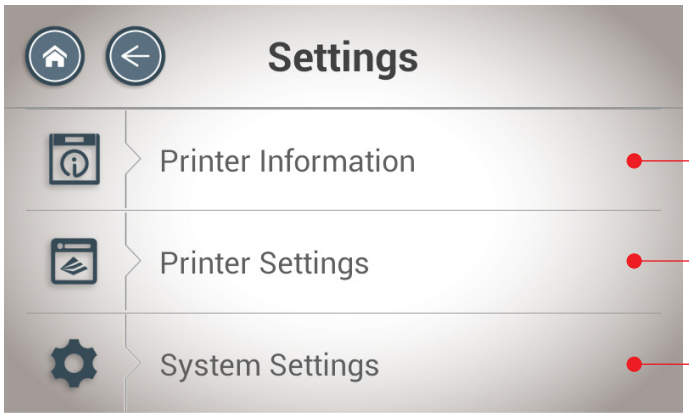




4 Replace the top cover on the printer after the cleaning is completed .Press OK to return Maintenance screen.

Chapter 9 Settings

Setting Menu

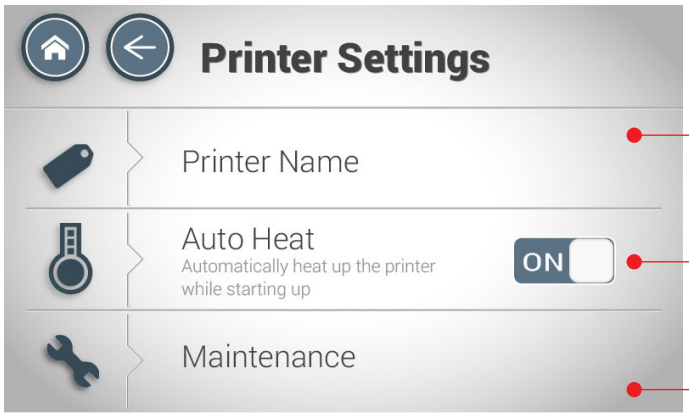


Check the temperature of the printer and the information of the filament cartridge.

Change the printer settings and operate the printer maintenance functions.

Change the settings of the network, LCD display, sound, language, date and time, and check the system information.

Printer Setting Menu

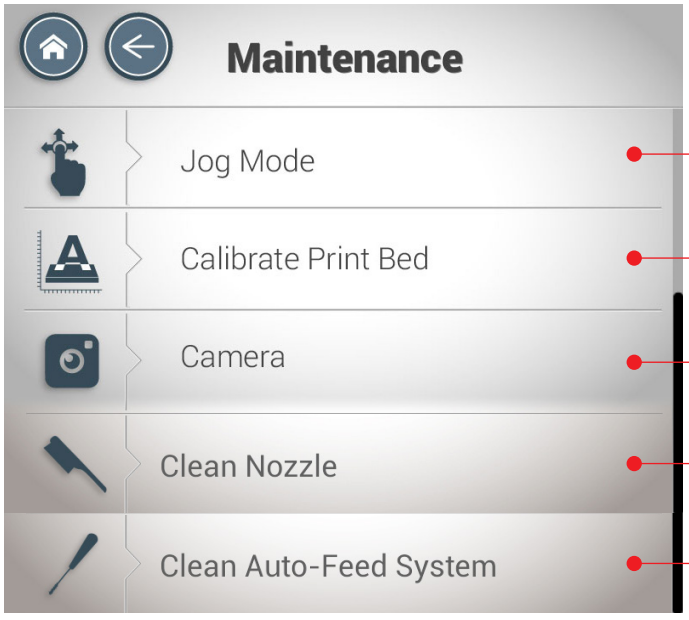


Printer Name: Change the printer name (Max 24 characters).

Auto Heat: The printer heats up automatically while starting up. When this function is activated, the operation temperature of the printer can be kept during the work. The printer will start printing once receiving the file.

Maintenance: Printer maintenance functions such as operating the jogging mode, calibrating the print bed and camera.

Maintenance Menu



Manually control the location of the printing module and print bed.

Detect the horizontal level of the print bed. (Refer to P22 for more information).

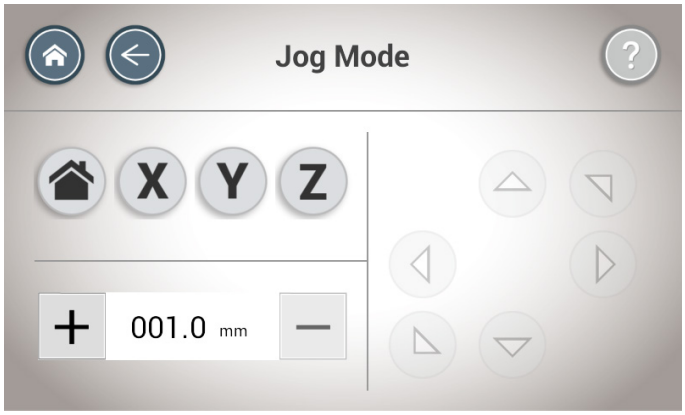
Use the camera to check the printing progress.

Clean the nozzle and detecting pin (Refer to P23 for more information).

When encountering any abnormal situations,use cleaning brush to clear away the filament debris from the gear.

Jog Mode

When manually adjusting the location of the printing module and the print bed is needed or the print head needs to be returned to its original position, use this function to manually adjust the location of the X, Y and Z axes.



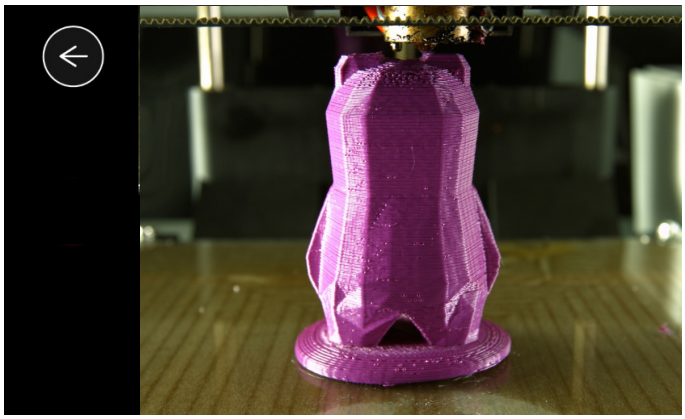
To adjust the location of the X-axis, Y-axis and Z-axis:

1. Click X 、 Y or Z to choose the desired direction axis to be moved.
2. Use ‹ or › to change the job space
3. Press and hold + or − to adjust the location.

Click to move the print head to its original position.

Camera

Use the camera to check the printing progress and status.



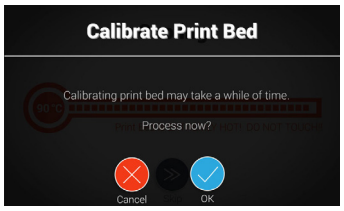
This print bed has been calibrated by our professional technician before shipment. Do not adjust the platform yourself unless necessary, or contact the customer service center.

Print Bed Calibration

1.Check for firmware update

In XYZware, select “About” > “Firmware Update”.

2.Activate Calibration



Select "Setting">"Printer Settings"> "Maintenance" >"Calibrate Print Bed" and press ✓ to perform calibration.

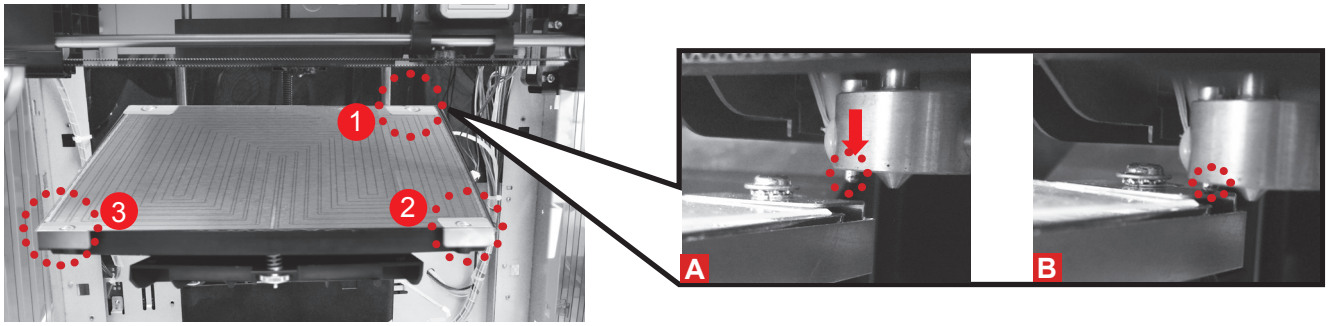
The printer starts automatic measurement.
Wait for 2~3 minutes and verify the data shown.

Note: During the measurement process, the print bed and extruder module will be heated.
Care should be taken during operation!

3.Wait for detecting

What does “detecting” do:

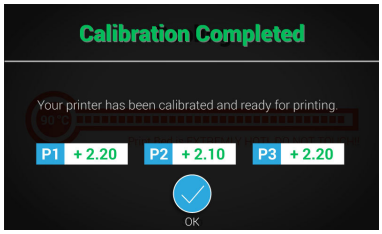
The printer measures the distance between the detecting pin and 3 measurement points at the corners of the print bed to check if the platform is leveled. When the height of the 3 points are no more than ±0.2 from each other, the print bed is leveled.



4.Check the detecting result on the display

1."Calibration Completed” - ready to print

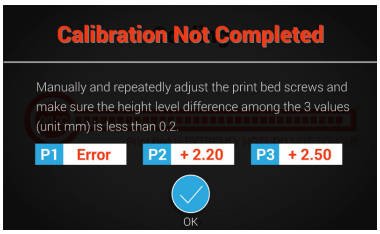
The print bed is leveled; adjustment to the print bed is not required.



Skip step 5 & 6, and press ✓ to finish.

2."Calibration Not Completed” and "Error" is shown - cleaning & leveling is required

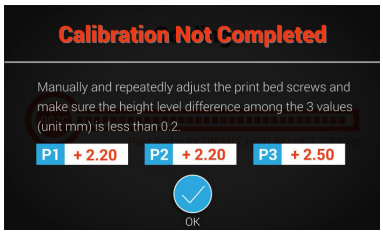
The detecting point is too high/ low for detection or the pin/ measurement point is covered by molten plastic.


Calibration Not Completed
Manually and repeatedly adjust the print bed screws and make sure the height level difference among the 3 values (unit mm) is less than 0.2.
P1 Error
P2 + 2.20
P3 + 2.50
OK

Press ✓ and proceed step 5 and 6.

3."Calibration Not Completed” - leveling is required

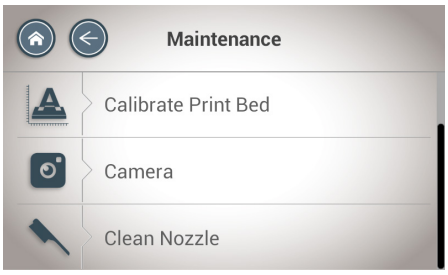
Unleveled print bed may affect printout quality. Please level the printbed based on the value of P1, P2 and P3.


Calibration Not Completed
Manually and repeatedly adjust the print bed screws and make sure the height level difference among the 3 values (unit mm) is less than 0.2.
P1 + 2.20
P2 + 2.20
P3 + 2.50
OK

Press ✓ and proceed step 6.

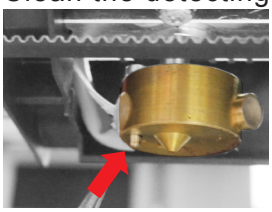
5.Clean the detecting pin

Select “Clean Nozzle” function, and brush the molten filament and dust from the detecting pin while the extruder is heated up.

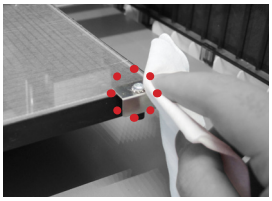


Activate " Setting" > "Printer Settings" > "Maintenance" > "Clean Nozzle".

Clean the detecting pin with the copper brush



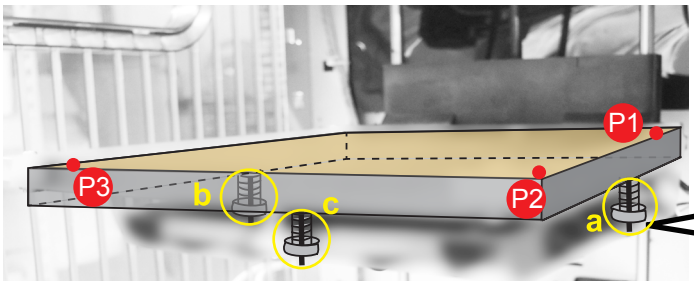
Clean the 3 measurement points

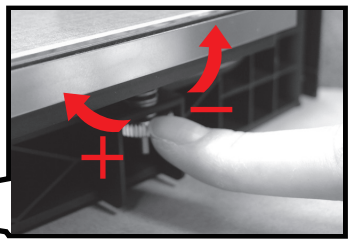


6.Level the print bed

1.The value indicates the height of point P1, P2, P3; greater value indicates the higher the detected point is.

2. Turn the 3 turning screws at location "a", "b", "c" under the print bed to level the platform.





How to adjust :

- Turn clockwise to raise, turn counterclockwise to lower.
- Adjust screw a and b may offset the diagonal. (e.g. Left turn screw b will lead to the descendant of point 2.)
- Tuning the screw for a full circle will change the value by 0.5. A single push to the screw will change the value by 0.2 to 0.25.

Thumb of rules:

- Adjust the values to the 2.3-2.6 range.
- 3 values should be no more than ±0.2 from each other.

When finishing the adjustment, repeat the calibration from step 2 until it shows "Calibration Completed".

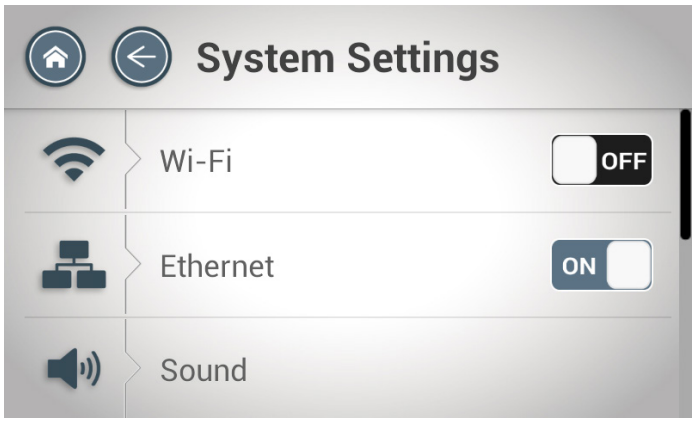
Specifications

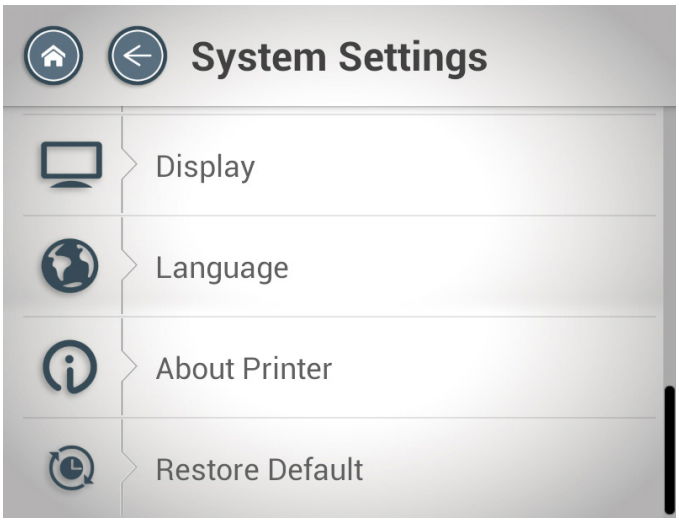
Model Name	da Vinci 1.1 Plus 3D Printer
Print Technology	Fused Filament Fabrication(FFF)
Print Head	Single Head
Build Volume (W x D x H)	20 x 20 x 20 cm
Layer Resolution Setting	Standard 200 microns Speed 300 microns Ultra fast 400 microns Custom 100-400 microns
Filament Diameter	1.75mm

Nozzle Diameter	0.4mm
AC Input	100-127V~ 4.0A 50/60Hz 200-240V~ 2.0A 50/60Hz
Connectivity	USB 2.0 WiFi LAN USB Flash Drive
Display	5" TFT LCD
Control Method	Touch Panel
Indicator	Speaker
Weight	27 Kg

System Setting Menu

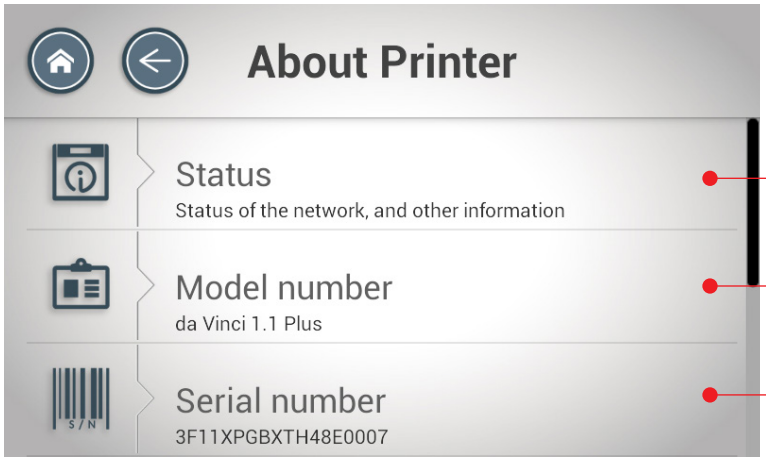
The operation system of the printer can be setup manually if necessary.





Follow the instructions on the screen to change the settings of the network, display, sound, and language. Then check the printer information and return to the default value.

About



Check the information about the connection of the printer to the network and its operation time.

Check the model number.

Check the serial number.

The version information of the underlying operation system.

The version information of the on-screen applications.

The function of the "firmware" is to control the movement of the printer. It is recommended to update the printer firmware to enhance the stability of the printer

Update the system, program and firmware versions via XYZware. After XYZware is connected to the printer, you will be informed when the software is checking the latest version. You only need to follow the XYZware instructions to update the printer easily.

Chapter 10 Support Details

The troubleshooting instruction may guide you to fix the problem. If any error persists, please contact customer service center for support.

Customer Support Center:http://support.xyzprinting.com
Technical Support (US):supportus@xyzprinting.com
Technical Support (EU):supporteu@xyzprinting.com
Other Region:support@xyzprinting.com

Service Code	Symptom	Action	Service Code	Symptom	Action
0 0 1 0	Print bed heating problem	Check connections, reboot the printer.	0 0 3 2	Z-axis movement abnormalities	Check motor/sensor connections. Check sensor position.
0 0 1 1	Extruder 1 heating problem	Check connections, reboot the printer.	0 0 4 0	Internal storage error	Check if SD card is inserted correctly.
0 0 1 3	Print bed heating problem	Check connections, reboot the printer.	0 0 5 0	Memory error	Reboot the printer.
0 0 1 4	Extruder 1 heating problem	Check connections, reboot the printer.	0 0 6 0	Internal communication error	Reboot the printer.
0 0 3 0	X-axis movement abnormalities	Check motor/sensor connections. Check sensor position.	0 2 0 1	Connection error between PC and printer	Reconnect PC to printer, or hotplug the cable between printer and PC.
0 0 3 1	Y-axis movement abnormalities	Check motor/sensor connections. Check sensor position.			

Error message	Action
The printer is handling other task	Try again after all tasks are completed. Also check the information shown on printer display.
Unable to update printer firmware	Check Internet connectivity/Update firmware again later.
Filament 1 jammed	Unload and reload cartridge 1 and clean the nozzle.
Filament 1 loading problem	Unload and reload cartridge 1.
Filament 1 installation problem	Reinstall the cartridge 1 or change a new cartridge.
Top cover open	Close the top cover.
Filament 1 level low: 30m left	Replace cartridge 1 when necessary.
Filament 1 level low: 5m left	Replace cartridge 1 immediately.

Federal Communications Commission (FCC) Statement

You are cautioned that changes or modifications not expressly approved by the part responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

XYZprinting is not responsible for any radio or television interference caused by using other than recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment and it also complies with Part 15 of the FCC RF Rules. This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and consider removing the no-collocation statement.